

That which is claim d is:

1. A method to augment a physical catalyst in a chemical reaction system with a spectral catalyst comprising the steps of:

a) determining an electromagnetic spectral pattern of said physical catalyst;

b) duplicating at least one frequency of said electromagnetic spectral pattern of step (a) with at least one electromagnetic energy emitter source;

c) exposing said chemical reaction system to said at least one frequency of said duplicated electromagnetic spectral pattern thereby augmenting said physical catalyst.

2. The method according to claim 1 wherein said physical catalyst is a member selected from the group consisting of metals, metal oxides and metal sulfides.

3. The method according to claim 1 wherein said electromagnetic spectral pattern is determined by spectroscopy methods.

4. The method according to claim 1 wherein said chemical reaction system is irradiated with said electromagnetic spectral pattern having frequencies ranging from about radio frequency to about ultraviolet frequency.

5. The method according to claim 1 wherein said frequency is in the visible light range.

6. The method according to claim 1 wherein said physical catalyst is an enzyme.

5 7. The method according to claim 1 wherein said physical catalyst is introduced into said chemical reaction prior to irradiation with said spectral catalyst.

8. The method according to claim 3 wherein said spectroscopy is a member selected from the group consisting of x-ray, ultraviolet, microwave, infrared, atomic absorption, flame emissions, atomic emissions, inductively coupled plasma, DC argon plasma, arc-source emission, spark-source emission, high resolution laser and Raman.

15 9. The method according to claim 1 wherein said physical catalyst is a member selected from the group consisting of silver, platinum, platinum oxide, nickel, palladium, rhodium, copper, ruthenium and iron.

20 10. The method according to claim 1 wherein said electromagnetic energy source is at least one laser.

25 11. The method according to claim 11 wherein said physical catalyst is introduced to said chemical reaction system subsequent to irradiating said system with said spectral catalyst.

30 12. The method according to claim 11 wherein said physical catalyst is introduced to said chemical reaction system and irradiating said system with said spectral catalyst is

substantially simultaneous.

13. A method for augmenting a physical catalyst in a chemical reaction comprising the following steps of:

5 a) duplicating at least one frequency of an electromagnetic spectral pattern of said physical catalyst; and

10 b) exposing said chemical reaction system to said at least one frequency of said duplicated electromagnetic spectral pattern in a sufficient amount to augment said physical catalyst.

14. The method according to claim 13 wherein said at least one frequency of said electromagnetic spectral pattern is a harmonic frequency of said electromagnetic spectral pattern of said augmented physical catalyst.

15. The method according to claim 13 wherein said at least one frequency copies a mechanism of action of said augmented physical catalyst.

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